

PENDING CLAIMS FOLLOWING THE AMENDMENT OF APRIL 2, 2002

Claims 2 and 4-15 are pending, as follows:

1 2. (Amended) The timing device according to claim 10, wherein the at least
2 one sensor unit for scanning the first group and the at least one higher-order group of
3 code markings consists of a single sensor-emitter-unit.

1 4. (Amended) The timing device according to claim 10, wherein the sensor
2 unit comprises a light source and a light sensitive sensing device.

1 5. (Amended) The timing device according to claim 10, wherein in the
2 sensor unit a two-channel evaluation of the optical signals is performed.

3 6. (Twice amended) The timing device according to claim 10, wherein the
4 first group of code markings has a predetermined optical density and the at least one
5 higher-order group of code markings has an optical density different from that of the
6 first group, with the groups of code markings having a detectable grading of optical
7 density levels for generating control or position signals.

1 7. (Amended) The timing device according to claim 6, wherein the groups of
2 code markings have a predefined difference between their optical density levels.

1 8. (Amended) The timing device according to claim 7, wherein the optical
2 density levels correspond to different gray levels which can span a range between light-
3 blocking and almost complete transparency.

1 9. (Amended) The timing device according to claim 8, wherein the carrier of
2 the timing device is made of a reflecting material and the groups of code markings have
3 different degrees of reflectivity.

4 10. (Amended) A timing device comprising a carrier having a first group of
5 code markings and at least one higher-order group of code markings disposed in at
6 least one code track, said first and at least one higher-order group of code markings
7 being scanned by at least one sensor unit to produce signals, wherein the at least one
8 code track has a different optical density compared to the first group, wherein the code
9 markings of the at least one higher-order group overlap with the code markings of the
10 first group in the at least one code track, wherein the code markings of the first group
11 have a mutually constant spacing from one another, whereas the code markings of the
12 at least one higher-order group are distributed over the code track with an arbitrary
13 spacing and are forming segments on the timing device for controlling different
14 functions.

1 11. (Amended) The timing device of claim 10, wherein said different
2 functions include at least one of the functions of controlling a start position, controlling

an end position, calibrating the timing device, and determining an absolute position of the timing device.

12. (Amended) A positioning device, comprising a timing device with a carrier having a first group of code markings and at least one higher-order group of code markings disposed in at least one code track, with the code markings being scanned by at least one sensor unit for producing a signal, wherein the at least one code track has a different optical density compared to the first group, wherein the code markings of the at least one higher-order group overlap with the code markings of the first group in the at least one code track, wherein the code markings of the first group are spaced at constant intervals from one another, whereas the code markings of the at least one higher-order group are distributed over the code track with an arbitrary spacing and are forming segments on the timing disk or the timing ruler for controlling different functions, and wherein the code markings of the at least one higher-order group are used for at least one of the purposes of controlling a start position, controlling an end position, calibrating the timing device, and determining an absolute position of the timing device; said positioning device further comprising a signal processing device that converts the sensor signal into a control signal and is connected after the sensor unit.

13. The timing device according to claim 4, wherein the light source is an LED.

1 14. The timing device according to claim 4, wherein the light sensitive
sensing device is at least one photo transistor.

1 15. (Amended) The timing device according to claim 10, wherein in the
2 sensor unit a multi-channel evaluation of the optical signals is performed.

Walter Kupper

4/2/2002